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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,027	08/04/2003	Artem Gennady Evdokimov	9045M2	5050

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EXAMINER

NASHED, NASHAAT T

ART UNIT

PAPER NUMBER

1656

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/634,027

Applicant(s)

EVDOKIMOV ET AL.

Examiner

Nashaat T. Nashed, Ph. D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 1,3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/18/03</u> . | 6) <input type="checkbox"/> Other: _____  |

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Applicant's election with traverse of Group II, claims 2 and 5, in the reply filed on February 13, 2006 is acknowledged. The traversal is on the ground(s) that inventions are closely interrelated, and in order to preserve the unity of invention all claims should be prosecuted in the same application. This is not found persuasive because the rules of restriction of a regular U. S. non-provisional utility application filed under 35 USC 111 are different from those of national stage applications filed under 35 USC 371, see MPEP 201. The instant application is filed under 35 USC 111, where the unity of invention does not apply. There are two element must be present in order for the restriction to be proper in the instant case. The first, the inventions must be distinct. Clearly, the three inventions are distinct and the prior Office action stated, why the three inventions are different from one another. Applicants have not traversed the restriction on the ground that the different inventions are not distinct. The second element is the presence of a search burden, if more than one invention is examined. The burden of search exists as evidenced by their classification in different classes and subclasses. While the search for the three inventions may overlap, each invention requires its own search. For example, the examination of invention I requires searching in Class 424, subclass 94.4 that is not required for searching inventions II and III. Elected invention II require searching in class 702, subclass 19 and 22, which are not required for the inventions of Groups II and I.

The requirement is still deemed proper and is therefore made FINAL.

Claims 2 and 5 are under consideration in this Office action. Claims 1, 3, and 4 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions I and III, there being no allowable generic or linking claim.

The claim of priority to provisional application 60/413,547, filed September 25, 2002 is improper because the instant application and the provisional application have no common inventor, see MPEP 201.11. Thus, the claimed priority is denied. Applicants must amend the first paragraph of the application to remove the improperly claimed priority or take some other appropriate action.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s). In particular, 37 CFR 1.821, which states:

(d) Where the description or claims of a patent application discuss a sequence that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application.

Thus, each time in the specification the phrase "HPTPbeta" appear to refer to a specific amino acid sequence or nucleic acid in the sequence listing, a sequence identification

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number should follow the phrase (see for example the Figures descriptions at pages 2 and 3, page 15, line 5, and page 16, line 12).

The drawings are objected to because Figure 2 and 5 compare two conformation of a part of the three-dimensional structure, but the two structures can't be distinguished. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 2 and 5 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following are the reasons for rejections:

- (a) The phrase "compound useful for the treatment of angiogenesis mediated disorder" in claims 2 and 5 is indefinite because the resulting claim does not define the metes and bound of the claimed invention. *In silico* method identifies potential compound useful for treatment. There is a long way between identifying a potential compound and a drug.
- (b) The clause "a compound that binds to HPTPbeta *in silico*" in claim 2 renders the claim indefinite because the resulting claim does not define the metes and bound of the claimed invention. A compound may bind to a protein/enzyme *in vivo* or *in vitro*, but clearly would not bind *in silico*. For examination purposes only, it is assumed that the clause means "a model of a compound that binds to the model of HPTPbeta *in silico*".
- (c) The phrase "ex vivo assay" in claim 5 renders the claim indefinite because the resulting claim does not define the metes and bound of the claimed

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invention. It is not define by the claim and one of ordinary skill in the art would not know its meaning.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the commercial availability of computers and various software packages listed in the specification at 10, line 11 through page 11, line 26 in view of Fachinger *et al.* (IDS reference 4: Oncogene 1999, Vol. 18, pages 1189-1198).

The specification admits that computers and software packages such as GRAM, DUCK or AUTODUCK are commercially available.

Fachinger *et al.* teach a protein named VE-PTP and its functional interaction of a murine protein-tyrosine phosphatase with the angiopoietin Tie-2, see the abstract. Also, they teach that HPTPbeta is the human analog of VE-PTP and suggested that the human have the same function of VE-PTP in regulating Tie-2, see the paragraph that bridge the two columns at page 5952. Also suggested that HPTP beta has a possible role as adhesion receptor, see the previously cited paragraph.

Fachinger *et al.* provide one of ordinary skill in the art with motivation to identify potential modulator for HPTPbeta activity as they teach the biological role of HPTPbeta in regulating Tie-2, which is involved in vascularization and remodeling of blood vessels. Thus, it would have been obvious to one of ordinary skill in the art to use a commercially available computer equipped with a software package such as GRAM, DUCK, and AUTODUCK to fit a model structure of a potential inhibitor to the three-dimensional structure of HPTPbeta to identify possible modulator for HPTPbeta activity. The only difference between the cited prior above and the claimed invention are the atomic coordinates. Data, which are fed into known algorithm such as QUANTA whose purpose is to compare or modify those data using series of processing steps, do not impose a change in processing steps and are thus nonfunctional descriptive material. A method used for its known purpose to compare data sets does not become non-obvious merely because a new data becomes available for analysis. Nonfunctional descriptive

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material cannot render non-obvious an invention that has otherwise been obvious. See *In re Gulak*, 703 F2d 1381, 1385 (Fed. Cir. 1983). Atomic coordinate can't render a known method for identifying inhibitors of enzymes, claim 2. It would have been further obvious to the ordinary skilled artisan to synthesize the potential inhibitor and contacting it with HPTPbeta (claim 5).

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashaat T. Nashed, Ph. D. whose telephone number is 571-272-0934. The examiner can normally be reached on MTWTF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen M. Kerr can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nashaat T. Nashed, Ph. D.  
Primary Examiner  
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